SHUAI ZHOU

Junior undergraduate student, South China University of Technology, Guangzhou, China
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RESEARCH INTERESTS

Robotics, Motion Planning, Multi-agent Systems

EDUCATION

South China University of Technology, Guangzhou, China — Sep 2022 — Jun 2026 (Expected)
Bachelor of Engineering in Robotics — Cumulative GPA: 3.86/4.00, Rank: 2/56

Core curriculum: Classic control theory, Robotics theory and technology, Mechanic, Introduction to Engineering, Data Structures and Algorithm

University of California, Berkeley, Berkeley, United States — Aug 2023 — Dec 2023
Visiting Student in EECS — Cumulative GPA: 4.00/4.00

Core curriculum: Data Structures, Designing information devices and Systems I, Introductory Physics II and Introduction to Solid Mechanics

ACADEMIC EXPERIENCE

RAP Lab, UM-SJTU Joint Institute, Shanghai Jiao Tong University — Shanghai, China
Research Intern — supervised by Prof Zhongqiang Ren — Apr 2024 — Present

- Research in Multi agent system & Motion planning.
- Specifically in developing planning algorithms for Multi agent Path finding with Asynchronous Actions (MAPF-AA).
- One paper is accepted by **AAAI-2025**.

PUBLICATIONS

Loosely Synchronized Rule-Based Planning for Multi-Agent Path Finding with Asynchronous Actions
Shuai Zhou, Shizhe Zhao, Zhongqiang Ren — Accepted by **AAAI-2025**

- Main Contributions: This paper proposes a novel approach to MAPF with asynchronous actions, focusing on scalability over optimality. By integrating search-based (LSS) and rule-based (PIBT) planning, our method efficiently computes unbounded sub-optimal solutions for large-scale problems. Experiments demonstrate its ability to handle 10× more agents than baselines with only 25% longer makespan.

SKILLS

- **OS**: Windows, Linux(Ubuntu)
- **Programming Languages**: Python, C/C++, Java, HTML,MATLAB
- **Version Control**: Git
- **Writing**: LaTeX, Office
- **Languages**: Chinese (native), English (fluent)
- **Additional Courses**
  - CMU: 10301/601 Introduction to Machine Learning
  - CMU: 16-782 Planning and Decision-making in Robotics
  - Coursera: Robotics: Computational Motion Planning
  - Coursera: Robotics: Aerial Robotics

REFERENCES

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